Overview of Formative Assessment

Margaret Heritage

MontCAS Presents

Module 1

August 20, 2009

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

National Center for Research
on Evaluation, Standards, & Student Testing
UCLA | Graduate School of Education & Information Studies | cresst.org

CRESST

Welcome and Housekeeping

- Quick Polling
- Type in a Response
- Type messages (Q &A) into text chat area

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

2

Poll: Who is on the webinar?

Are you a:

- ❑ *teacher in an elementary school*
- ❑ *teacher in a middle school*
- ❑ *teacher in a high school*
- ❑ *school or district administrator*
- ❑ *professional development provider*
- ❑ *Office of Public Instruction administrator*
- ❑ *other*

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

3
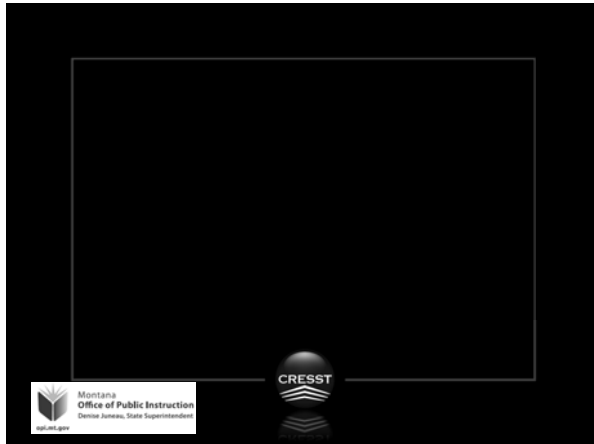
Formative Assessment Modules

- Module 1: Overview of Formative Assessment
- Module 2: Assessment Systems
- Module 3: Learning Progressions and Learning Goals
- Module 4: Planning Formative Assessment
- Module 5: Differentiating Instruction
- Module 6: Feedback

Poll: Ten Statements about Formative Assessment: True or False?

☐ Formative assessment is a specific type of test

☐ Formative assessment is when teachers give grades to students

☐ Student metacognition is part of formative assessment

☐ Formative assessment involves students in giving feedback to peers

☐ Formative assessment happens at the end of a unit

6

Poll: Ten Statements about Formative Assessment: True or False?

❑ Formative assessment happens minute-by-minute, day-by-day

❑ Formative assessment is when teachers tell students their answers are right or wrong

❑ Formative assessment involves teachers in giving oral and written feedback to their students

❑ Formative assessment is a good idea, but there is no research to say it works

❑ Formative assessment helps all students, but in particular it helps low achieving students.

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

7

Module Objectives

✓ Gain an understanding of the theoretical and research base on formative assessment

✓ Understand Where Formative Assessment Fits in the Big Picture

✓ Learn About the The Process of Formative Assessment

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

National Center for Research on Evaluation, Standards, & Student Testing

CRESST

Overview

✓ Background on Formative Assessment

✓ Where Formative Assessment Fits in the Big Picture
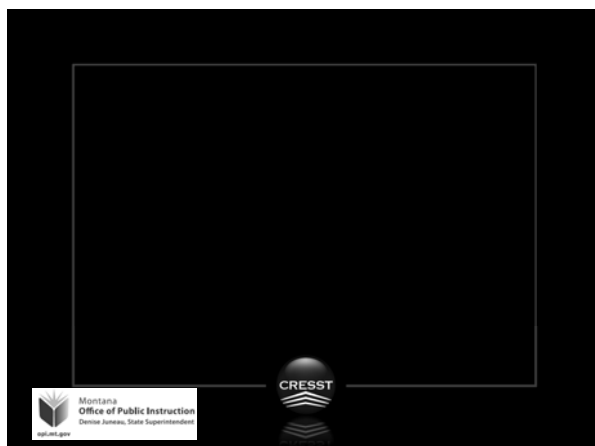
✓ The Process of Formative Assessment

✓ Teacher voices

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

National Center for Research on Evaluation, Standards, & Student Testing

CRESST

Montana
Office of Public Instruction
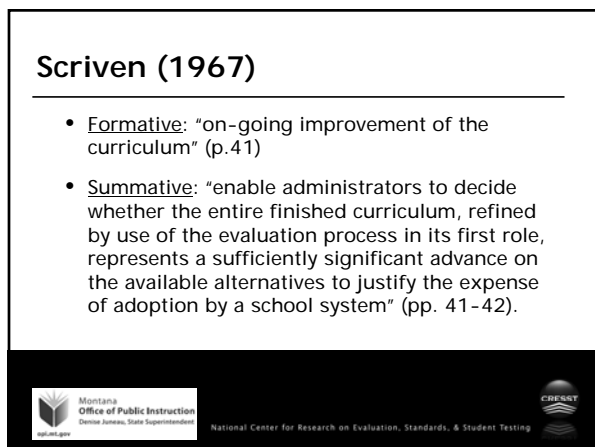Denise Juneau, State Superintendent
opi.mt.gov

Scriven (1967)

- <u>Formative</u>: "on-going improvement of the curriculum" (p.41)

- <u>Summative</u>: "enable administrators to decide whether the entire finished curriculum, refined by use of the evaluation process in its first role, represents a sufficiently significant advance on the available alternatives to justify the expense of adoption by a school system" (pp. 41-42).

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST
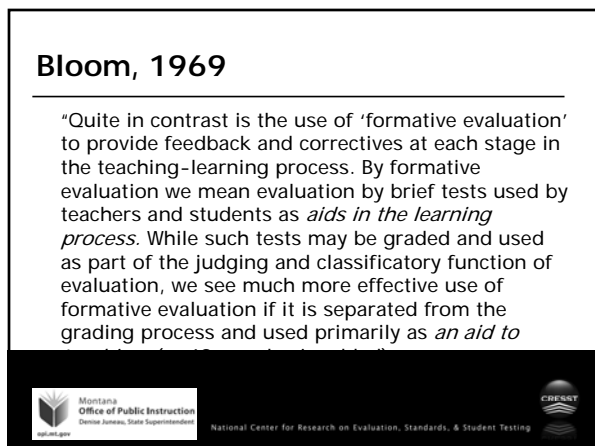

Bloom, 1969

"Quite in contrast is the use of 'formative evaluation' to provide feedback and correctives at each stage in the teaching-learning process. By formative evaluation we mean evaluation by brief tests used by teachers and students as *aids in the learning process.* While such tests may be graded and used as part of the judging and classificatory function of evaluation, we see much more effective use of formative evaluation if it is separated from the grading process and used primarily as *an aid to*

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

Enlargement of Conception

- Integration of formative assessment within each instructional activity

- More diversity in how learning is assessed (e.g., observation, teacher-student dialogue, student-student dialogue and whole class discussions)

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing

---

Enlargement of the Conception

Ramaprasad (1983) definition of feedback:

"Feedback is information about the gap between the actual level and the reference level of a system parameter that is used to alter the gap in some way" (p 4.)

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing

---

Enlargement of Conception

Sadler (1989), stresses feedback as a key element in "altering the gap":

- Two audiences for feedback: the teacher and the student

- Teacher gets feedback from formative assessment

- Students acquire feedback from external sources and through self-monitoring

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing

Enlargement of Conception

Sadler (1989)

- possess a concept of the *standard* (or goal, or reference level) being aimed for

- compare the *actual* (or current) *level of performance* with the standard

- engage in appropriate *action* which leads to some closure of the gap (p. 121).

Landmark in Formative Assessment

Built on earlier reviews: Natriello (1987), Crooks (1988), Kluger & DeNisi (1996)

Black & Wiliam (1998)

- Reviewed over 250 studies from around the world

- Reported effect sizes of 0.4 – 0.7

Improving Achievement

- An effect size of 0.4 would mean that the average pupil involved in an innovation would record the same achievement as a pupil in the top 35% of those not so involved

- An effect size gain of 0.7 in the recent international comparative studies in mathematics would have raised the score of a nation in the middle of the pack of 41 countries

Landmark in Formative Assessment

Black & Wiliam, 1998

- Formative assessment, when combined with effective feedback, produces significant learning gains, particularly for low achieving students

Montana Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

A Word of Caution

- "Unfortunately this obeisance has become so ritualized that a more detailed recollection of the bodies of research literature they examined has been lost. Attention has been focused on the positive effect sizes they reported, rather than the underlying theories that explain how formative assessment works. Black and Wiliam drew together diverse bodies of research including studies addressing: teachers' assessment practices, students' self-perception and achievement motivation, classroom discourse practices, quality of assessment tasks and teacher questioning, and the quality of feedback. Because of the close overlap between formative assessment and feedback, they provided considerable detail

Montana Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

Feedback Questions

- Where am I going? (What are the goals?)

- How am I going? (What progress is being made toward the goal?)

- Where to next? (What activities need to be undertaken to make better progress?)"

Montana Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

- Assessment *of* Learning

- Assessment *for* Learning

- Assessment *as* learning

Working Definition

- *Formative assessment is process that takes place continuously during the course of teaching and learning to provide teachers and students with feedback to close the gap between current learning and desired goals.*

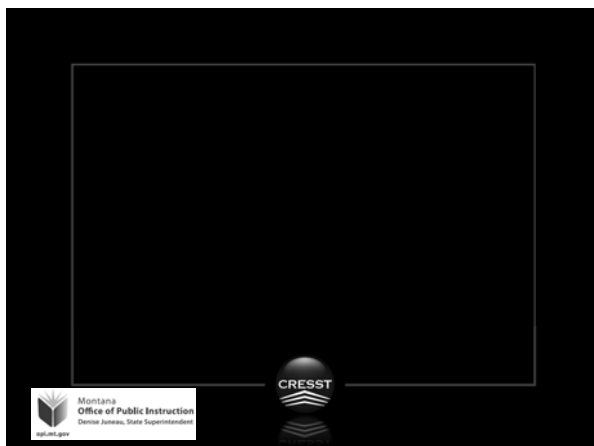## Assessment: One Size Does Not Fit All

---

Assessments within the System

Learning Goals/Progression

STUDENT — Minute-by-Minute — Daily — Weekly — Unit/Sequence Of Lessons — Quarterly — Annual

---
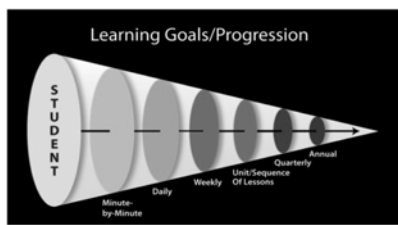
Different levels of granularity needed for different decisions

Questions, Comments?

CRESST

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

Key Idea…

.........FEEDBACK

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
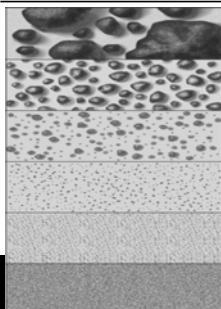
Feedback to Close the Gap (Sadler, 1989)

32
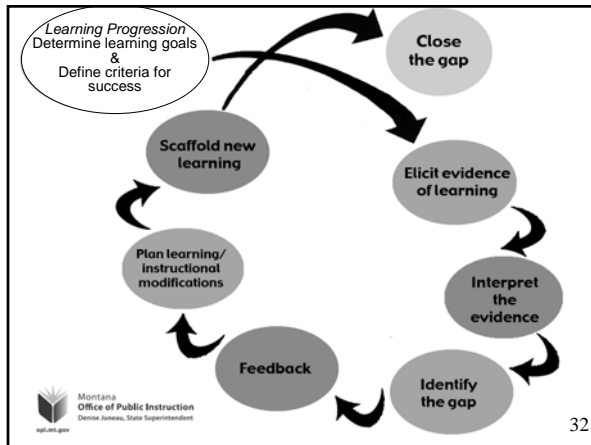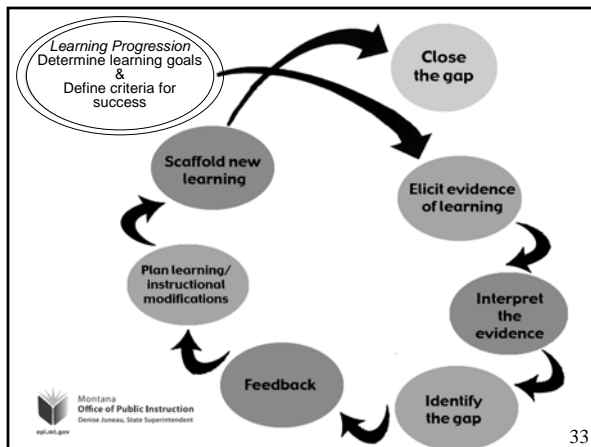
33

Learning Goal and Success Criteria

- Learning goal shared with students

- Criteria for success shared with students

- Goal and criteria are manageable

- Goal and criteria are in language students can understand

Learning Progression
Determine learning goals
&
Define criteria for success

Formative assessment must collect quality evidence of learning.

- Systematic
- Planned
- Spontaneous/on-the-fly

Elicit evidence of learning

Plan learning/ instructional modifications

- No single way
- Appropriate to purpose
- Aligned with learning goals
- Embed concepts & skills
- Provide sufficiently detailed information

Feedback

Eliciting Evidence: No Single Way

✓ Questioning

✓ Discussion (student/student – teacher/student)

✓ Observation (watching and listening)

✓ Tasks (representations, explanations, problem solving strategies)

✓ Mid-lesson checks (white boards, ABCD cards, clickers)

✓ Exit cards

✓ Notes to teacher

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

National Center for Research on Evaluation, Standards, & Student Testing

CRESST

Big Idea:

Because earth varies in composition and structure, its physical structures are constantly changing.

Learning Goal(s)	Success Criteria	FA Strategies
Understand the reasons for the locations of earthquakes and volcanoes.	Find longitude and latitude locations	*Questioning:* Where would I find NW, etc.? What are the major grids on the map?
	Plot current earthquake and volcano data on a world map using a key that indicates depth and magnitude (color coded and size coded)	*Observation and questions:* Observe while students plot data individually. Why have you plotted an EQ here? *Peer Feedback:* Students present graphs to each other in small groups. Peers provide feedback. Listen to feedback
	Compare and contrast the EQ/V map to a late boundaries map	*Questions:* What is the relationship between magnitude and depth of earthquakes? What is the relationship between E/V locations and plate boundaries? What types of plate boundaries typically create volcanoes? What types of plate boundaries typically create earthquakes? Can earthquakes and volcanoes exist at the same locations? Why do you think that is?
	Use data to support conclusions about the location of V & EQ	*Individual written explanations:* Justify conclusions by articulating evidence for basis of conclusion.

37

Big Idea:

Colors have value and intensity

Learning Goal(s)	Success Criteria	FA Strategies
Understand how colors are affected by adding black and white to create shades and tints	Create different tints and shades of the same color and explain why the color changes	Individual experimentation – paint colors to create shades and tints. Questioning – what did you do to make this shade/tint? What do you think would happen if you added white to this color? Why? What do you think would happen if you added black? Why?
Understand how artists use tints and shades to create various effects in their work	Explain how a given artist has used tints and shades in artwork	In small groups, discuss 3 pictures from different artists. How has the artist used tints and shades? What kind of effects have they created? Teacher observation of discussions – intervene to scaffold
Use accurate vocabulary		Listen for vocabulary use in all of the above

38

Big Idea:

Read and respond to works of literature

| Learning Goal(s)	Success Criteria	FA Strategies
Write a critical analysis of the Old Man and the Sea.	Present a judgment that is interpretive, analytic or evaluative	First draft: partner peer review and feedback Note to teacher about what sections they would like to discuss
	Support your judgment through references to the text, other works and other authors	Second draft: student highlights improvements, then peer review and feedback Teacher review of feedback and add comment(s) Final draft

39

40
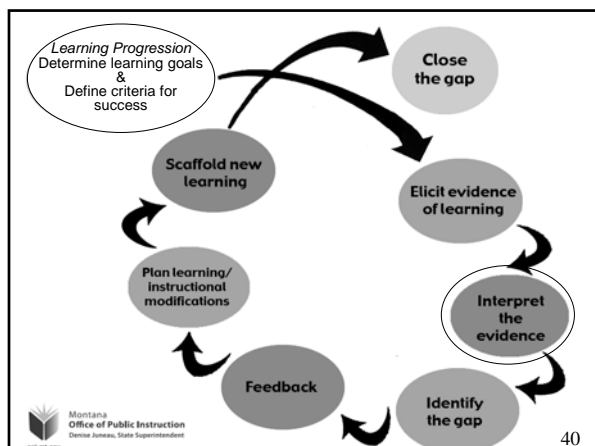
Interpreting Evidence

- What does my evidence tell me about the students' current learning status?

- Is there a gap between my student's current learning status and the desired goal? What is it? Can I determine that from the evidence I have or do I need more evidence?

- Are my students on track to meeting the success

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

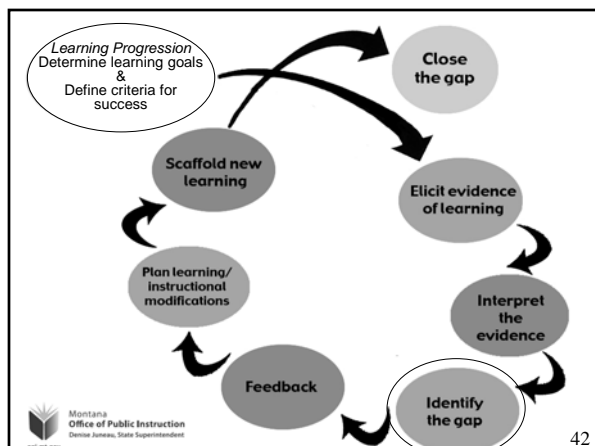National Center for Research on Evaluation, Standards, & Student Testing

CRESST

42

The Just Right Gap

Learning Progression Determine learning goals & Define criteria for success

Close the gap

Scaffold new learning

Elicit evidence of learning

Self-Assessment Metacognition

Plan learning/ Instructional modifications

Peer Assessment

Interpret the evidence

For Teaching

Feedback

Identify the gap

For Learning

44
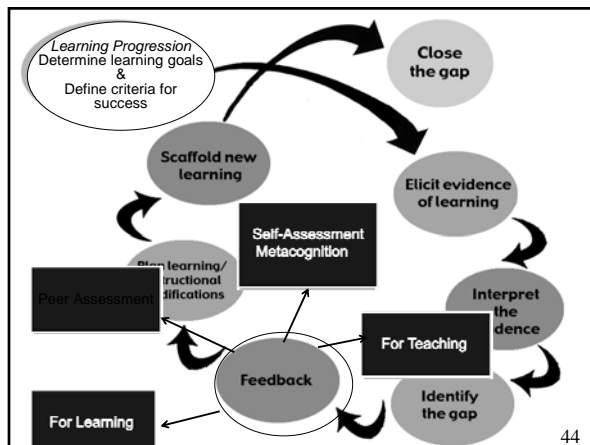
Using Feedback

- Feedback is only formative if it is USED by students

- Teachers must allow TIME for students to use feedback

- Using feedback helps students develop LEARNING STRATEGIES

Learning Progression
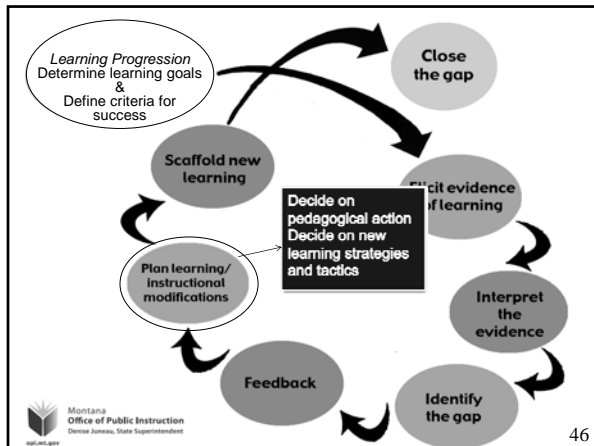Determine learning goals
&
Define criteria for success

Close the gap

Scaffold new learning

Decide on pedagogical action
Decide on new learning strategies and tactics

Elicit evidence of learning

Plan learning/instructional modifications

Interpret the evidence

Feedback

Identify the gap

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

46

Learning Progression
Determine learning goals

Feedback

Close the gap

Implement new strategies and tactics

Scaffold new learning
ZPD

Elicit evidence of learning

Plan learning/instructional modifications

Interpret the evidence

Feedback

Identify the gap

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

47

Learning Progression
Determine learning goals
&
Define criteria for success

Close the gap

Scaffold new learning

Elicit evidence of learning

Plan learning/instructional modifications

Interpret the evidence

Feedback

Identify the gap

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

48

Classroom Climate For…..

- Valuing and using feedback
- Peer- and self-assessment
- Self-regulation

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing

CRESST

Questions, Comments?

50

CRESST

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov

Deb

"*I used to think that formative assessment was just the assessment teachers use to figure out if students understood the lesson or not, but I now think that formative assessment is a process which is a series of planning, reflection, and feedback by the teacher and the student. This process seems to be something I have been missing from my own teaching.*"

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

Sharon

"*I used to do more but now I do less. Because so much evidence is gathered with formative assessment, I may do 2 or 3 very targeted tasks in an eighty-minute class rather than "lots of good stuff." Now I work hard to save time for student reflection rather than filling every minute with activity. I take every opportunity to assess my students in various, formative ways. I'm not asking them for three of four different pieces of paper at the end of class so I can tell them if they "got it." Now, they may only produce one piece of written evidence in their learning; I have other ways of assessing them now that can inform me of where they are throughout the lesson. I can address misconceptions more quickly and push their learning farther with timely feedback.*"

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

Shawn

- "*I used to do a lot of explaining, but now I do a lot of questioning.*

- *I used to do a lot of talking, but now I do a lot of listening.*

- *I use to think about teaching the curriculum, but now I think about teaching the student.*"

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

Melanie

"I feel like formative assessment has helped me enter into a partnership with students with regard to learning. It has helped me demystify the classroom for kids. The transparency that sharing learning goals and success criteria creates allows for so much growth for both teacher and student. The students know I am there because I have a goal for them to reach and I want them to succeed. They also know I take every opportunity (written work, conversations, response boards…) to gather evidence of what they know. Formative assessment has not only changed me as a teacher but I believe it has changed the students as learners."

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
National Center for Research on Evaluation, Standards, & Student Testing
CRESST

Poll: Check Your Learning

On a scale of 1–5 rate the degree to which you think you have met today's objectives (1 is not at all – 5 is to a great extent):

❑ *Gain an understanding of the theoretical and research base on formative assessment*

❑ *Understand Where Formative Assessment Fits in the Big Picture*

❑ *Learn About the The Process of Formative Assessment*

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
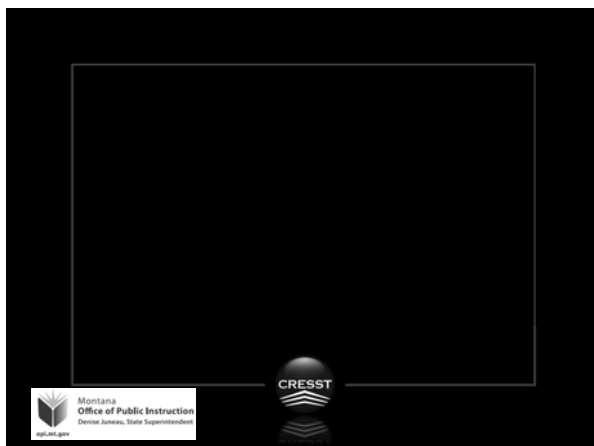National Center for Research on Evaluation, Standards, & Student Testing
CRESST

Montana
Office of Public Instruction
Denise Juneau, State Superintendent
opi.mt.gov
CRESST